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09/912,004	07/24/2001	Guido Schaffner	3926.030	5606

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EXAMINER

VANOY, TIMOTHY C

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 02/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09-912,004	Applicant(s) SCHAFFNER ET AL.
Examiner VANOV	Group Art Unit 1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

THE PRELIMINARY AMENDMENT MAILED JULY 24, 2001

Responsive to communication(s) filed on _____

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

Claim(s) 9 - 16 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 9 - 16 is/are rejected.

Claim(s) 10, 12 AND 13 AND 11 is/are objected to.

Claim(s) _____ are subject to restriction or election requirement

Application Papers

The proposed drawing correction, filed on _____ is approved disapproved.

The drawing(s) filed on _____ is/are objected to by the Examiner

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

All Some* None of the:

Certified copies of the priority documents have been received.

Certified copies of the priority documents have been received in Application No. _____.

Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Int'l Inv Summary, PTO-413

Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

- a) In the abstract, it appears that reporting $\lambda > 1$ for *both* the "storing" and "releasing" phases of the exhaust gas purification process appears to be in error.
- b) On pg. 6 ln. 6, the reference to "zinc oxide" appears to be in error.

✓ Response to Amendment

The replacement pages 1, 3 and 5 mentioned on the 1st page of the Preliminary Amendment dated July 24, 2001 (paper no. 2) have been entered.

Claim Objections

- a) Since claim 9 never mentioned a "first noble metal", then there is no antecedent basis in claim 9 for the "second noble metal" mentioned in claim 10.
- b) There is no antecedent basis in claim 9 for the "noble metals" mentioned in claims 12 and 13.
- c) In claim 11, "extrudate" is misspelled.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

a) Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. *Prima facie*, it would not seem possible for $\lambda > 1$ for *both* the "lean motor operating phase" and the "rich motor operating phase". It would seem that one of these phases must have $\lambda < 1$. No new matter can be entered into the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9, 10 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regards as their invention.

a) In claim 9, the claim language does not particularly point out and distinctly set forth if porous carrier may comprise at least 50 wt. % of titanium oxide, silicon oxide or a zeolite, or if the "at least 50 wt. %" *only* limits the zirconium oxide, without further limiting the titanium oxide, etc.

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b) Regarding claims 10 and 16, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having "ordinary skill in the art" has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 890 389 A1.

In col. 4, "Example B" in EP 0 890 389 A1, the use of catalyst of the formula: "Ag-Al₂O₃//Pt/Rh-Al₂O₃" is disclosed for treating the exhaust gas emitted from an internal combustion engine operating under what appears to be primarily under fuel-lean conditions (note that Fig. 6 appears to be a graph of NO_x concentration on the y axis vs. lambda conditions on the x axis for the treatment of an exhaust gas using the "Ag-Al₂O₃//Pt/Rh-Al₂O₃" catalyst, wherein Fig. 6 shows that the conditions of the exhaust gas appear to be "lean" (i. e. "mager $\lambda > 1$ ") for 10 minutes out of 12, *in as much as* the discussion of Fig. 6 in columns 7 and 8 in EP 0 890 389 A1 discloses that the O₂ concentration of what appears to be the exhaust gas is 8% for "mager $\lambda > 1$ "). Fig. 6 also shows the concentration of NO_x spiking from about 1,000 ppm to about 5,000 ppm when the conditions of the exhaust gas are changed to fuel rich (thereby, fairly suggesting that the composition stores NO_x when the exhaust is emitted from a "fuel lean" engine burn mode, and releases the stored NO_x when the exhaust gas is emitted from a "fuel-rich" engine burn mode), in a manner that is submitted to render obvious the limitations of (at least) applicants' claims 9 and 10.

The difference between the applicants' claims and EP 0 890 389 A1 is that applicants' claim 9 reports that the carrier may be zirconia, titania, silica or zeolite (whereas the catalyst of "Example B" and Fig. 6 in EP 0 890 389 A1 reports the use of alumina as the support.

Col. 2 Ins. 4-8 in EP 0 890 389 A1 appears to list materials that may be used as the catalyst support - to include the alumina of "Example B" in EP 0 890 389 A1 as well as the zirconia, titania, silica and zeolite of applicants' claim 9.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process and composition described in EP 0 890 389 A1 by substituting the zirconia, titania, silica or zeolite described in col. 2 Ins. 4-8 in EP 0 890 389 A1 in lieu of the alumina used in the catalyst of "Example B", in the manner set forth in at least applicants' claim 9, because such substitution of one known functional equivalent in lieu of another known functional equivalent is *prima facie* obvious: please see the discussion of the *In re Fout* 675, F.2d 297, 213 USPQ 532 court decision set forth in section 2144.06 in the MPEP.

Notice that col. 2 Ins. 48-49 mentions the "Pellets" and "Extrudate" of applicants' claim 11.

Also, note that col. 2 In. 53 mentions a "Atomare Mischung", fairly suggesting the "atomic mixture" of applicants' claim 12.

Also, note that "Ag-Al₂O₃//Pt/Rh-Al₂O₃" fairly suggests that the Pt and Rh are deposited on the same alumina carrier, as set forth in applicants' claim 13.

Also, note that the "pulvermischung" of col. 3 ln. 1 and the "Pulver B" of col. 4 ln. 19 fairly suggests the "powder mixture" of applicants' claim 14.

Also, note that the "Ag-Al₂O₃//Pt/Rh-Al₂O₃" described in col. 4 lns. 10-36 appears to be a layered composition (as set forth in applicants' claim 15), and also has catalytic components on different supports (as set forth in applicants' claim 16).

The following references, which are indicative of the state of the art, are made of record:

EP 0 927 571 A1 disclosing a method for treating exhaust gas;

EP 0 707 882 A1 disclosing a catalyst for treating exhaust gas;

US 2001/0043896 A1 disclosing a catalyst for treating diesel exhaust;

U. S. Pat. 6,471,924 B1 disclosing a method and apparatus for NOx abatement;

U. S. Pat. 6,413,483 B1 disclosing a catalytic converter for a lean burn engine,

and

U. S. pat. 6,294,140 B1 disclosing a layered, noble metal-containing exhaust gas catalyst.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 703-308-2540. The examiner can normally be reached on 8 hr. days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-

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872-9310 for regular communications and 703-872-9311 for After Final

communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Timothy Vanoy/tv
February 4, 2003

Timothy Vanoy
Timothy Vanoy
Patent Examiner

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